

Isolating converter

Isolating converter for unipolar and bipolar signals with switchable calibrated ranges

- isolation and mutual conversion of 4 to 20mA, 0 to ± 20 mA and 0 to ± 10 V signals
- 24 calibrated ranges
- setting range by two slid switches DIP on the board
- power supply 18VDC for loop powered transmitter on input
- input-output-power supply isolation: 4000Vrms
- auxiliary power supply in wide range 19 to 300VDC and 90 to 250VAC
- DIN 35 rail-mounted design
- conversion accuracy: < 0,1%
- time response: < 50ms include transmission delay about 8ms

The module is designed to isolate and convert standard unipolar and bipolar current or voltage ranges, namely 0 to ± 20 mA, 4 to 20mA and 0 to ± 10 V. The module also provides a 18V power supply for powering the input current loop 4-20mA. Typically, the module can be used as a supply for power and isolation for converter powered by current loop. The output of the converter is isolated from the input and the auxiliary power supply.

Elektrical specifications:

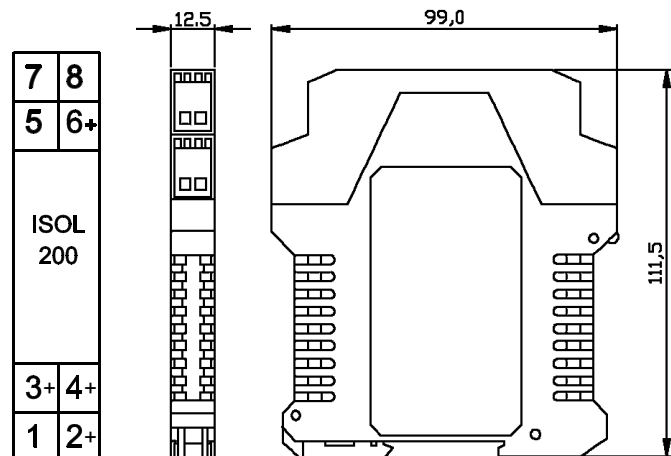
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|--|---|
| - operating temperature range: | -25...+ 70°C |
| - storage temperature range: | -40...+ 80°C |
| - auxiliary power supply | standard: wide range 19 – 300VDC a 90 – 250 VAC |
| | to order: 20 – 60VAC |
| - power consumption: | max. 1,5VA |
| - power supply for two-wire converter: | 18V for 20mA |
| - signal conversion settings: | see table 1 |
| - output voltage amplitude: | 15V / Iout (ohm) |
| - voltage output load: | max. 10mA |
| - input resistance of voltage input: | 1Mohm |
| - drop in current input: | 0,54V |
| - output current limit: | typ. 25mA (electronic cut-out) |
| - transfer function maximum error: | < 0,1% |
| - linearity error: | < 0,05% |
| - temperature induced error: | < 50ppm /°C |
| - output signal ripple: | < 10mV RMS |
| - input to output capacity: | 20pf |
| - time response: | < 50ms |
| - enclosure | casing / terminal board:
IP40 / IP10
90g |
| - weight: | |
| - environment: | pollution degree 2
overvoltage category installation III |



Type test:

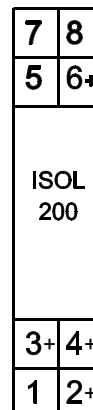
- Standard type test: to ČSN EN 60770-1ed.2
EMC: to ČSN EN 61326-1
Safety: assessed acc. to ČSN EN61010-1

Dimensional drawing:



Terminals connection:

- 1...GND minus pole for input and 18V power supply
- 2...plus pole for input current
- 3...plus pole for input voltage
- 4...plus pole for 18V power supply
- 5,6..output (6 is +)
- 7,8..auxiliary power supply without polarity



Selectable ranges of converter:

unipolar input and output		SA					SB	
input	output	SA1	SA2	SA3	SA4	SA5	SB1	SB2
0/4..20mA	0/4..20mA							on
0..20mA	4..20mA					on		on
0..20mA	0..10V				on		on	
0..10V	0..20mA				on	on		on
0..10V	4..20mA			on				on
0..10V	0..10V			on		on	on	
4..20mA	0..20mA			on	on			on
4..20mA	0..10V			on	on	on		
bipolar input		SA					SB	
input	output	SA1	SA2	SA3	SA4	SA5	SB1	SB2
0..±20mA	0..±20mA	on						on
0..±20mA	4..20mA	on				on		on
0..±20mA	0..10V	on			on		on	
0..±10V	0..20mA	on			on	on		on
0..±10V	4..20mA	on		on				on
0..±10V	0..10V	on		on		on	on	
bipolar output		SA					SB	
input	output	SA1	SA2	SA3	SA4	SA5	SB1	SB2
0..20mA	0..±20mA		on					on
0..20mA	0..±10V		on		on		on	
0..10V	0..±20mA		on		on	on		on
0..10V	0..±10V		on	on		on	on	
4..20mA	0..±20mA		on	on	on			on
4..20mA	0..±10V		on	on	on	on		
bipolar input and output		SA					SB	
input	output	SA1	SA2	SA3	SA4	SA5	SB1	SB2
0..±20mA	0..±20mA	on	on					on
0..±20mA	0..±10V	on	on		on		on	
0..±10V	0..±20mA	on	on		on	on		on
0..±10V	0..±10V	on	on	on		on	on	

Switch SA (five contacts) adjusts type of conversion.

Switches SA1 a SA2 adjusts input or output range from unipolar to bipolar mode.

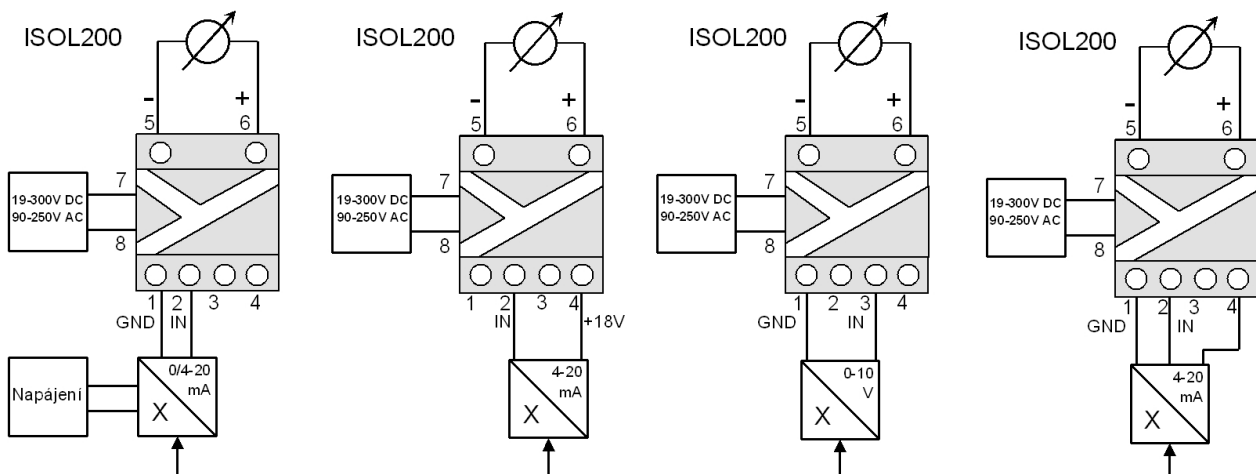
Switches SA3,SA4 and SA5 adjusts conversion from input to output

Switch SB (two contacts) adjusts output from voltage to current.

SB2 on , SB1 off = current output
SB1 on , SB2 off = voltage output

If the setting is invalid combination, the transmitter will be in the **range 0/4..20mA/0/4..20mA unipolar.**

Exmples of using the module:



Installation:

The terminals accept wires up to 2.5 mm². We recommend using a cable with a cross section of 0.5mm². Mechanically, the transducers are mounted on 35 mm DIN rail. After hanging to the rail has to be the bottom of the unit pushed to the rail. The latch on the bottom of the unit snaps it to the rail.

Demounting is done with a screwdriver. After releasing the latch you can removed unit from the rail.

Replacing the converter:

The converter allows a very simple device replacement without removing the wires. Push by screwdriver under the original clips see figure 1 and 2, replace the unit and slide the clamps back.

Fig.1



Fig.2



Setting the required range of the transducer:

To set the required range is necessary the device open. Use a screwdriver press down orange stripes on the sides of the device see Fig.3 and after remove the enclosure. We got to the setting of DIP switch. Complete the enclosures after setting . The setting is done.

Fig.3



Setting DIP switches range selection.



Ordering instructions:

Your order should include

- module type ISOL200
- input range – if you wish to set up
- output range– if you wish to set up
- basic settings – switch SB2 is on
- basic setting range 0/4..20mA to 0/4..20mA
- quantity

Ordering examples:

- ISOL200 = basic settings – switch SB2 is on , selected range 0/4..20mA to 0/4..20mA
- ISOL200 0.. ±20mA / 0.. ±20mA = customer settings – switches SA1, SA2 and SB2 are on
- ISOL200 4..20mA / 0.. ±10V = customer setting- switches SA2,SA3,SA4,SA5 and SB1 are on

Notes:

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Likvidaci po ukončení životnosti provést odděleným sběrem.
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